



State of California—Health and Human Services Agency
Department of Health Care Services



ARNOLD SCHWARZENEGGER
Governor

January 10, 2008

CHDP Provider Information Notice No.: 08-02

TO: ALL CHILD HEALTH AND DISABILITY PREVENTION (CHDP) PROGRAM PROVIDERS

SUBJECT: BODY MASS INDEX (BMI)-FOR-AGE PERCENTILE JOB AID

This Provider Information Notice (PIN) provides you with a medical office job aid, “Body Mass Index (BMI)-for-Age Percentile”. It is intended to assist you and your office staff with accurately completing the BMI percentile section on the *Confidential Screening/Billing Report (PM 160)*.

The first page provides steps for obtaining the BMI–for-age percentile and recording it. The second page is a quick visual reference for medical office staff that includes an example of a completed BMI percentile section on the PM 160. It may be posted by your scales and stadiometer as a quick reference for staff. The third page, “Definitions and Tools for Obtaining BMI-for-Age Percentile” provides an explanation of relevant terms and describes useful medical office tools.

BMI Percentile on PM 160

The PM 160 (version 8) now includes a section to record BMI-for-age percentile. BMI-for-age percentile is considered a standard health screen by national organizations, such as the American Academy of Pediatrics, American Medical Association and Centers for Disease Control and Prevention. It is routinely used for children 2- 20 years of age to determine growth trends and weight categories, such as underweight, overweight and obese.

Role of CHDP Provider

[CHDP Provider Notice 07-13](#), referenced national guidelines, “Childhood Obesity Implementation Guide from the Expert Committee Recommendations on Assessment, Prevention and Treatment of Child and Adolescent Overweight and Obesity- 2007” from the Childhood Obesity Action Network, National Initiative for Children’s Healthcare Quality. The recommendations in “Step 1, Obesity Prevention at Well Child Visits” are directly related to CHDP Health Screens and the prevention of overweight. The role of CDHP

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providers is to identify at-risk weight categories, such as overweight and obesity early by using standardized BMI-for-age percentiles and evaluate the need for additional assessments. When overweight and/or obesity weight status are identified, initial anticipatory guidance is offered. The CHDP provider is not expected to resolve overweight and/or obesity during a screening visit.

Your continuing participation in the CHDP Program is greatly appreciated. If you have any questions about this Provider Information Notice or other CHDP issues, please contact your local CHDP Program office.

Original Signed by Marian Dalsey, M.D., M.P.H.

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Enclosures



Body Mass Index (BMI)-for-Age Percentile

Example: Height, Weight and BMI Percentile Sections on the PM 160

HEIGHT IN INCHES 0 4		WEIGHT LBS OZS		BODY MASS INDEX (BMI) PERCENTILE	BLOOD PRESSURE
HEMOGLOBIN		HEMATOCRIT .0%		%	BIRTH WEIGHT LBS OZS

Record BMI-for-Age Percentile on the Confidential Screening/Billing Report (PM 160) for all children/adolescents 2 years and older.

INSTRUCTIONS for determining and recording BMI-for-age percentile (See example on page 2)

1. **Accurately measure standing height*** in inches to the nearest quarter (1/4) inch.
Record on the PM 160. Fill in all three spaces in the height section. "0" is preprinted in the first (left) space. Enter whole inches in the second and third spaces. "/4" is preprinted in the last (right) space for recording fractions. Convert all fractions of an inch to the nearest one-quarter (1/4) inch as indicated below:

Whole inches = Enter 0/4
1/4 inch = Enter 1/4

1/2 inch = 2/4 = Enter 2/4
3/4 inch = Enter 3/4

2. **Accurately measure weight*** in pounds to the nearest ounce.
Record on the PM 160. Fill in all five spaces in the weight section. Record pounds in the first three spaces and ounces in the next two spaces. Enter a leading zero (0) in the first space for weights less than 100 pounds. Enter number of ounces or zeros when there are no ounces.
3. **Determine BMI value** by using the standard BMI equation identified on CDC/NCHS growth charts or use a pediatric version of a calculating tool: BMI wheel (values calibrated to tenths); CDC BMI chart (values calibrated to tenths); personal digital assistant program or online calculator.
Record the BMI value on the appropriate (boys or girls) CDC/NCHS "BMI-for-age percentiles" growth chart: <http://www.cdc.gov/growthcharts/> to the nearest tenth (0.1) of a decimal point.
4. **Determine BMI-for-age percentile (%ile)** by plotting BMI value on the CDC/NCHS "BMI-for-age percentiles" boys or girls growth chart. **Record BMI percentile on the PM 160** by estimating a whole number between 1 and 99 that best represents the percentile point (intersection of BMI value and age) plotted on the growth chart or the absolute number obtained from a software program or online calculator. Enter a leading zero in the first space for numbers less than 10. For numbers below the 1st percentile, enter "01". For numbers over 99th percentile, enter "99".
5. **Determine weight category** by referring to the guidelines from the 2007 AMA Expert Committee Recommendations on the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity**

< 5 th %ile	Underweight	85 th - 94 th %ile	Overweight
5 th - 84 th %ile	Healthy Weight	95 th - 98 th %ile	Obese
		≥ 99 th %ile	Obese (severely)

Record the weight category in the "Comments" box on the PM 160 if the child's weight falls outside the healthy range. For example, write "obese" when the BMI is in the 95-98th percentile. Use the 2007 AMA Expert Committee Recommendations as guidance for categories.

* CHDP *Health Assessment Guidelines*, Appendix, Growth Assessment section

** 2007 AMA Expert Committee Recommendations on the Assessment, Prevention and Treatment of Child and Adolescent Overweight and Obesity <http://www.ama-assn.org/ama/pub/category/11759.html> (Click on "New: Recommendations on the Treatment of Pediatric Obesity" in the right hand column of web page for a PDF report).



Body Mass Index (BMI)-for-Age Percentile Reference (For posting)

1. Determine accurate weight and height

Record measurements on the data entry table on the CDC/NCHS growth chart and PM 160



Calibrated Scale

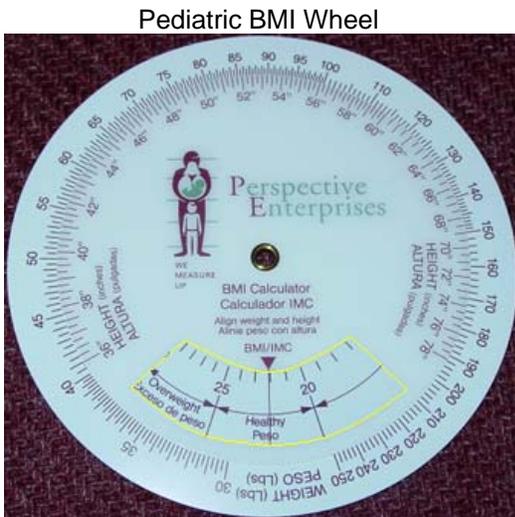


Stadiometer

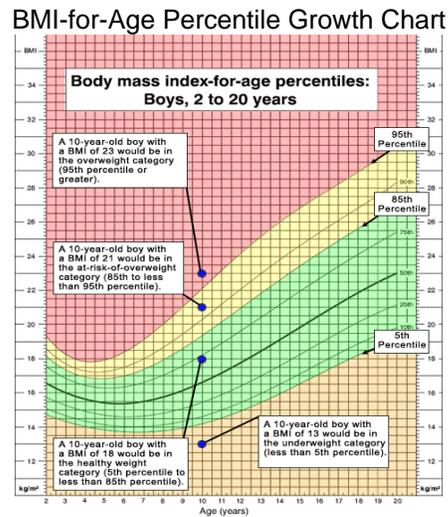
2. Determine BMI value

Record on data entry table/growth chart

3. Plot BMI value on BMI-for-age percentile growth chart



Line up height and weight
Read value in window



<http://www.cdc.gov/growthcharts>

4. Record BMI-for-age percentile on the PM 160

Example:

HEIGHT IN INCHES 0 3 9 2 4	WEIGHT LBS OZS 0 4 1 0 0	BODY MASS INDEX (BMI) PERCENTILE 9 7 %	BLOOD PRESSURE
HEMOGLOBIN	HEMATOCRIT		BIRTH WEIGHT LBS OZS

Age/Sex: 3 year old boy

Height: 39 ½ inches Weight: 41 pounds BMI Value: 18.5 kg/m²

Estimated BMI Percentile (read from growth chart): ≥ 95th %ile (Record best estimate)

or Calculated BMI Percentile (from calculator): 97th %ile (Record 97)

Weight Category: “Obese” (Provider interprets weight category.) Record in “Comments” box.



Definitions and Tools for Obtaining BMI-for-Age Percentile

What Is BMI?

Body Mass Index (BMI) is a value calculated from an individual's weight and height. BMI provides a reliable indicator of body fatness for most individuals and is used to **screen** weight categories and health problems associated with weight.

How Do I Calculate BMI?

BMI value is calculated by using an equation or a calculating tool.

English Formula: $Weight\ in\ pounds \div Height\ in\ inches \div Height\ in\ inches \times 703 = BMI\ value$

Metric Formula: $Weight\ in\ kilograms \div Height\ in\ meters \div Height\ in\ meters = BMI\ value$

(Calculating tools: CDC online calculator, BMI wheels and software programs use this equation)

What Is BMI-for-Age Percentile?

The BMI-for-age percentile provides a comparison of one child's BMI value to other children who are the same age and sex. BMI value and BMI-for-age percentile are **NOT** the same. BMI value must be plotted on the CDC/NCHS BMI-for-age percentile growth chart for children (2-20 years) in order to provide a comparison to other children their age and sex. *(For recommended growth charts, go to:*

<http://www.cdc.gov/growthcharts> Individual Growth Charts, Set 2, Body mass index-for-age percentile – boys and girls, 2-20 years.) Growth charts display a range of percentiles; the major percentile channels between 5-95th percentiles are marked by channel lines. For example, when a child's BMI value is plotted at the 95th %, this means their BMI is the same or higher than 95 percent of other children who are the same age and sex. American Medical Association and American Academy of Pediatrics recommend tracking growth measurements (including BMI) over time and plotting them to determine a child's growth trend and possible health problems associated with weight.

Tools to Determine BMI Value and BMI-for-Age Percentile

Centers for Disease Control and Prevention (CDC)

BMI Calculator for Child and Adolescent:

Online software that calculates **BMI percentile** from height, weight, age and sex data

<http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx>

(Free, easy-to-use, precise, requires computer access, printable)

BMI Table for Calculated Body Mass Index (BMI) Values for Selected Heights and Weights for Ages 2 to 20 Years: <http://www.cdc.gov/nccdphp/dnpa/bmi/00binaries/bmi-tables.pdf>

Checkbook Size BMI Table: <http://www.cdc.gov/nccdphp/dnpa/bmi/00binaries/bmi-checkbook.pdf>

Online or printable tables of sequential heights and weights for determining BMI value

Plot BMI value on growth chart to determine BMI-for-age percentile.

(Free, requires computer access or printable, somewhat bulky, must graph for percentile)

BMI Wheels (pediatric version)

The BMI wheel is an easy-to-use tool for rapid and accurate calculation of Body Mass Index (BMI) value. It is CD-sized and has a double-sided design to calculate BMI value using a single wheel. Smaller weights and heights are on one side of the wheel (pediatric sized) and higher weights and heights are on the other side (adolescent/adult sized). When ordering, request "**pediatric**" BMI wheels that have 20-450 lb. weight range and BMI values calibrated to tenths. Companies who make BMI wheels include:

- Trowbridge and Associates- <http://www.trowbridge-associates.com/>
- Perspective Enterprises - <http://www.perspectiveent.com/>
- IWA Incorporated- <http://www.IWAslidecharts.com/>

(Some free, easy-to-use, quick readings, mobile, no computer access require, must graph for percentile)

Downloadable software programs for handheld PDAs

For electronic growth charts and BMI-for-age percentile calculations, Stat Coder.Com is one company that provides PDA software for free @ <http://www.statcoder.com/growthcharts.htm>

(Some free, moderate difficulty, precise, mobile, handheld device required)